

MERLOT: A faculty-focused Web site of educational resources

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The Multimedia Educational Resource for Learning and Online Teaching (MERLOT) is a community of academic institutions, professional discipline organizations, and individual people building a collection of Web-based teaching and learning resources where faculty can easily find peer-reviewed materials for use in their classes. The MERLOT project is currently supported by 23 systems and institutions of higher education and by the National Science Foundation. MERLOT is developing collections of learning materials from many academic disciplines, including psychology.

MERLOT (Multimedia Educational Resource for Learning and Online Teaching) is a cooperatively developed, free, Web-based resource where faculty can easily find digital learning materials with evaluations and guidance for use. Designed primarily for faculty and students in higher education, MERLOT (www.merlot.org) addresses the difficulties that institutions of higher education and their faculty experience in fulfilling the promises of technology-enhanced education. For example, institutions make regular and substantial investments in the development of instructional technology amid concerns that they may be “reinventing the wheel.” Faculty also face many challenges, such as producing high-quality instructional materials in a timely and reliable manner, receiving appropriate professional recognition for producing these materials, and providing evidence of improvements in teaching and learning. Moreover, where digital materials are available to be shared, faculty also have difficulty in evaluating their quality.

The continuously expanding resources in MERLOT currently include over 4,000 descriptions of Web-based learning materials, sample student assignments for using the materials, peer reviews of the materials, comments by users of the materials, and over 2,000 profiles of people who are individual members of MERLOT. Learning materials from a wide variety of academic disciplines are indexed on the MERLOT site. Most of the learning materials found on www.merlot.org are modular (e.g., simu-

lations, tutorials, and animations), designed to be integrated within the context of a larger course. Most of the materials run inside a Web browser, which facilitates use within an on-line course or as assignments to students outside the classroom.

MERLOT is also a community of academic institutions, professional discipline organizations, and individual people who strive to enrich teaching and learning experiences. The MERLOT project is supported by 23 systems and institutions of higher education, as well as by the National Science Foundation and the National Learning Infrastructure Initiative of EDUCAUSE. Over 160 faculty from these institutions are collaborating in the project. For more details about the MERLOT project, go to <http://taste.merlot.org>.

A strategic priority of MERLOT is the peer review of on-line learning materials, a process that will help ensure that learning materials within the MERLOT collection address significant theoretical or research issues and are contextually accurate, pedagogically sound, and technically easy to use. The peer review process of MERLOT's collection has been modeled after the discipline-based peer review of scholarship and research. Perhaps most important, it provides a mechanism for professional recognition for faculty developing and using instructional technology.

How MERLOT Works

Membership. Individuals can join MERLOT simply by clicking on the “Become a Member” link and following the instructions. Members create a profile that communicates their skills and interests to visitors. Visitors can search the member database by name, by area of interest, and by skills. Institutions can also join MERLOT. Information on institutional membership is found by clicking the “About MERLOT” link.

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Contributing materials. Any member, author, or user who knows of pedagogically useful materials can contribute materials by clicking on the “Contribute Materials” link and following the guidelines. This means that the MERLOT site is open and contains diverse resources.

Academic discipline communities of reviewers. Finding, reviewing, and managing a large quantity of high-quality learning materials and support resources is the responsibility of MERLOT Discipline Teams. The MERLOT project has established academic Discipline Teams of faculty who have demonstrated (1) expertise in the discipline, (2) excellence in teaching, (3) experience in using technology in teaching and learning, and (4) connections with their discipline’s professional organizations. Current faculty teams were selected by the 23 systems and institutions of higher education that are partners in the MERLOT project. MERLOT provides facilitation and training in planning and conducting the peer reviews.

Establishing editorial expertise. The MERLOT developmental process for establishing faculty-based national standards is based on national workshops augmented by on-line communication in password-protected worksites. Each discipline team has two coeditors who coordinate the workload among the faculty on that discipline’s editorial boards. The coeditors from different disciplines gather at national workshops, where they are trained in the general principles guiding MERLOT, where they have the opportunity to learn from the coeditors of other academic disciplines, and where they discuss how policies will differ across disciplines. Consequently, peer reviews will have some level of consistency across disciplines and will be appropriately translated to address the unique needs of the discipline.

The coeditors of specific disciplines then meet at national workshops with that discipline’s editorial board members to create specific policy and standards for their discipline. After these workshops, the Discipline Teams continue to work together through teleconferencing and on-line worksites. Currently, the Psychology Discipline Team is in the process of setting peer review policies and standards and posting initial peer reviews.

The peer review process. Although there are policy differences in different disciplines, peer review typically involves the evaluation of material posted on MERLOT by at least two faculty who have relevant expertise. Faculty reviewers write individual evaluations and then send the reports to the discipline leader, who integrates them. The resulting peer review report on a learning material contains a description of its learning goals, its targeted student population(s), and its prerequisite knowledge/skills, a categorization of the type of learning material it is (simulation, animation, tutorial, quiz, lecture/presentation, collection, or reference material), a summary of procedures for using it, technical requirements for using it, and an evaluation of its quality. Comments and recommendations only for the author are also provided.

Because MERLOT is an open site where any member may submit materials, the goal of the Psychology Disci-

pline Team is to provide peer reviews of the sites judged to be the very best. In the evolving psychology editorial policy, materials will be removed from the site only when inappropriate. This will leave many psychology sites that will not be endorsed by MERLOT but whose usefulness is left to individual teachers.

Evaluation Standards

There are two general elements to quality of content. First, do the learning materials present valid (correct) concepts, models, and skills? To evaluate the validity of the content, the reviewers rely on their expertise. Second, do the learning materials present educationally significant concepts, models, and skills for the discipline? To evaluate the educational significance of the content, reviewers decide if the content is core curriculum within the discipline, is difficult to teach and learn, and/or is a prerequisite for understanding more advanced material in the discipline.

Potential effectiveness for teaching and learning.

On the basis of their expertise as teachers, reviewers judge *potential* effectiveness in terms of how much the digital materials are likely to improve teaching and learning, given the ways the faculty and students could use them. This evaluation dimension is conditional on how the digital learning materials are used and differs from discipline to discipline. The Psychology Discipline Team focuses on the sophistication of the learning process required of students. Such processes vary greatly across materials, and examples of kinds of learning processes include discovery, prediction and application to new cases, generalization of concepts, interactivity and simulation, on-line collaboration, and passive reading of on-line text.

Ease of use. As a guideline, MERLOT provides discipline teams with a summary of usability standards, which are based on Nielson’s (1993) heuristics for good instructional design. Reviewers evaluate how easy it is for teachers and students to use the digital learning materials for the first time.

Categorization Schemes

Each Discipline Team develops a subject categorization scheme to enable users to find and contribute materials to the MERLOT collection easily, reliably, and appropriately. The Psychology Team has divided psychology into the following subjects: biological, clinical, community and health, developmental and life span, diversity, ecological, ethics, history and systems, industrial and organizational, personality, sensation and perception, social, and statistics and research methods.

Complementing Peer Reviews With User Comments

MERLOT has a second and parallel review process that complements the formal peer reviews. Anyone who signs on as an individual member of MERLOT can contribute *user comments*. The user-centered review process

has precedence in a number of highly used Web sites, such as Amazon.com, and allows individuals to provide their observations and evaluations on the learning materials within MERLOT. A User Comments page containing guidelines for giving feedback is connected to every posted learning material.

Usability Testing for Continuous Improvement

Assessment is at the core of MERLOT's approach to designing reliable, usable, reusable, effective tools and processes. The assessment of MERLOT is conducted by the California State University, Long Beach Center for Usability in Design and Assessment (CUDA). CUDA evaluates all workshops for training Discipline Teams. It also evaluates the on-line worksites and tools that allow the Discipline Teams to communicate and be productive when they are not meeting face to face, with particular emphasis on community building and collaboration. The capability of the communication tools to sustain the peer review process are evaluated by the analysis of the frequency, type, and interconnectedness of the communications. Data for these analyses are captured from the MERLOT worksites through their archived postings, threaded discussions, and listserv communications. CUDA analyzes the content and type of communications performed by the reviewers, leaders, project directors, and administrative team. The analysis will be used to design tools, templates, and processes that meet the behavioral requirements of the virtual work groups at all levels of

the organization. Samples of assessment reports can be found at <http://taste.merlot.org/toolassess.html>.

To ensure that the tools, templates, and processes are usable, CUDA regularly performs usability evaluations (e.g., needs and task analyses, heuristics evaluations, walk-throughs, laboratory user tests, field tests, and quality assurance testing) of MERLOT Web sites and tools. Individual faculty (MERLOT members and nonmembers), contributors, reviewers, faculty development personnel, technology project directors, members of professional organizations, and collection providers reflect the range of users that are involved in usability testing at various phases of the project.

In conclusion, MERLOT is developing a digital resource appropriate for many academic disciplines. Its faculty orientation facilitates the participation of faculty in the design, development, expansion, and evaluation of the collection of academic content connected with pedagogy. The psychology collection of resources is new and evolving. All faculty are invited to join this cooperative endeavor and shape the resource to serve their needs at www.merlot.org.

REFERENCE

NIELSON, J. (1993). *Usability engineering*. Boston: Academic Press.

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